

## AL4094S

Embedded Data/Fax/Voice dial-up Modem with V.92 and Speakerphone functionality. The preferred analog modem module for embedded and M2M applications. Pin compatible with ISDN, LAN and GSM socket modules.

### Benefits:

- Enables any device to send and receive data via analog (PSTN) line.
- Complete, ready-to-integrate analog modem, suited for a wide range of M2M applications.
- Solid modem quality. V.56bis testing standard used, which defines a series of line impairment combinations based on worldwide telephone line surveys. The TAS equipment was used for testing, with live-line torture tests validating the modem quality. Test results are readily available

### Functions:

- Standard Hayes AT-Command Set and V.250, V.251 Commands.
- ITU-T V.92, V.34, V.32, V.22bis, V.22, V.23, V.21, Bell 212A and Bell 103. V.22bis fast connect.
- Built-in UART interface with speeds up to 115.2 kbps.
- Automatic Format and Speed sensing.
- Serial asynchron and synchron data interface.
- V.42 and MNP error correction. V.44, V.42bis and MNP 5 data compression.
- Telephony / TAM functions, V.253 voice commands.
- 2-bit and 4-bit ADPCM, 8-bit linear PCM, and 4-bit IMA coding.
- Concurrent DTMF and ring detection.

### Connectivity:

- Full-duplex speakerphone (FDSP) supported .
- Full-duplex Voice send / receive (AT+VTR) supported.
- Fax Modem send / receive up to 14.4kbps (V.17, V.29, V.27ter). Fax protocols EIA/TIA 578 Class 1 and T.31 Class 1.0 supported.
- Worldwide operation (complies to TBR21, Part 68 and other country requirements)

### Specifications:

- Compact Size: 64.5 X 26.5 X 5 mm.
- Single 5.0 VDC supply. (3.3V optional)
- Typical Power use: 490 mW @ 5V
- Serial UART, 5-Volt tolerant, TTL interface.
- Approved for Europe (CE). R&TTE directive. Meets specification TBR21.
- Approved for FCC Part 68 and Canada CS-03 in accordance to TIA-968-A.
- Safety according EN60950, IEC60950-1.
- EMC according EN55022, EN55024.
- CB test certificate Nr. AT1777
- Lightning protection according K.21 and FCC Part 68
- Conforms to the RoHS directive.
- 2 Year warranty.

Ordering:



**AL4094S**

Pin Diagram				Pin No	Name	Pin No	Name
1	TIP	SPKR	64	1	TIP	64	SPEAKER
2	RING	AGND	63	2	RING	63	AGND
		MICRO	62	3..23	NO PIN	62	MICRO IN
		VCC	61	24	RESET	61	VCC
				25	NC	60	NC
				26	GND	59	NC
				27	NC	58	NC
				28	NC	57	NC
				29	DCD LED	56	NC
				30	RXD LED	55	NC
				31	DTR LED	54	NC
				32	TXD LED	45...53	NO PIN
24	RESET	XTCLK	44	33	RTS	44	XTCLK
25	NC	RXCLK	43	34	RXD	43	RXCLK
26	NC	TXCLK	42	35	TXD	42	TXCLK
27	GND	GND	41	36	RI	41	GND
28	NC	DTR	40	37	DSR	40	DTR
29	DCD LED	DCD	39	38	CTS	39	DCD
30	RXD LED	CTS	38				
31	DTR LED	DSR	37				
32	TXD LED	RI	36				
		TXD	35				
		RXD	34				
		RTS	33				

Operating Conditions	Symbol	Limits	Units
Supply Voltage 5V Version	VDD	+ 4.75 to + 5.25	VDC
Supply Voltage 3V Version (-3V version)	VDD	+ 3.15 to + 3.45	VDC
Operating Ambient Temperature	TA	0 to + 70	°C
Extended temperature (ET Version)		on demand	

Power Requirements	Typical Current (mA)	Max. Current (mA)
Off-hook, normal data connection	98	108
On-hook, idle, waiting for ring	93	102
Sleep Mode	30	33

Product Documentation	Doc Nr.
Designers Guide	AL4094S-E00-103
AT Command Manual	AL4094S-A00-105
Additional Documentation	<a href="http://www.xmodus.ch">www.xmodus.ch</a>

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